

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Patent Application of	)	<b>MAIL STOP AF</b>
	)	
Tuqiang Ni et al.	)	Group Art Unit: 1792
	)	
Application No.: 09/788,365	)	Examiner: Rudy Zervigon
	)	
Filed: February 21, 2001	)	Confirmation No.: 3359
	)	
For: GAS INJECTION SYSTEM FOR PLASMA	)	
PROCESSING	)	
	)	
	)	
	)	

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Initially, it should be noted that the present application was filed in 2001, Applicants have filed three Appeals, which have not been adjudicated because each time a non-final office action was issued instead of an Examiner's Answer. Before Applicants file a fourth Appeal, Applicants respectfully request review of the Final Rejection dated November 24, 2009.

In the previous Amendment, Claims 1-24, 26-27, 37 were cancelled and Claims 25, 39, 41 and 42 were amended. Claims 25, 28-36, 38-45 are pending. Reconsideration and allowance are respectfully requested in view of the following remarks.

Claims 25, 28-36, 38-45 were twice rejected under 35 U.S.C. §103(a) as allegedly unpatentable over U.S. Patent No. 5,935,373 ("Koshimizu") in view of U.S. Patent No. 5,792,269 ("Deacon") and U.S. Patent No. 5,680,013 ("Dornfest").

Independent claims 25, 39, 41 and 42 each recite:

- A gas injector for supplying process gas to a plasma processing chamber wherein a semiconductor substrate is subjected to plasma processing
- the gas injector comprising: gas injector body sized to extend through a chamber wall of the processing chamber such that a distal end surface of the gas injector body is exposed within the processing chamber
- the gas injector body including a bore defined by a side wall and an endwall
- a plurality of gas passages in fluid communication with the bore
- the gas passages adapted to supply process gas into the processing chamber
- the gas passages include gas inlets located in the endwall and gas outlets located in the distal end surface
- the gas inlets are closer to a central axis of the bore than the gas outlets
- the gas inlets of the angled gas passages are located equal distances from the central axis of the bore.

The Examiner acknowledges that Koshimizu does not teach, *inter alia*, that "the gas inlets of the angled gas passages are located equal distances from the central axis of the bore" as recited in independent Claims 25, 39, 41 and 42. See Final Rejection, pages 4-8.

The Examiner further contends (Final Rejection, page 9) that Deacon teaches, *inter alia*, that "the gas inlets (top of 41,42; Figures 5,6) of the angled gas passages (41,42; Figures 5,6) are located equal distances ("uniformly distributed"; column 4; lines 35-45) from the central axis of the injector body (40; Figure 4)." The Examiner proposes that "an addition of holes to Koshimizu's gas injector (156; Figure 1), as claimed, would be obvious." (Final Rejection, page 11).

Applicants respectfully point out that the claimed endwall is missing in the cited references. In the Final Rejection it is alleged that Koshimizu discloses "a side wall and an endwall which extends inwardly from the sidewall" (Final Rejection at page 3, lines 15-17). However, this is clear error as the open bore in port 156 only has a sidewall, i.e., there is no inwardly extending endwall. Thus, the claimed "endwall" is missing.

Although the claimed endwall is missing in Koshimizu, the claimed feature of "the gas inlets of the angled gas passages are located equal distances from the central axis of the bore" (emphasis added) is also missing. The Final Rejection alleges that Figures 5, 6 of Deacon show the claimed feature (Final Rejection at page 9, lines 3-6) but Figures 5 and 6 of Deacon merely show a single gas passage at 36° (Fig. 5) or 72° (Fig. 6). The claim feature of inlets located equal distances from the central axis is totally missing in Deacon. Thus, two of the claimed features are missing in the applied references.

Dornfest is cited only for features of ceramic protection. Even if Dornfest is combined with Koshimizu and Deacon, Dornfest still cannot cure the above deficiencies of Koshimizu and Deacon.

It is respectfully submitted that a *prima facie* case of obviousness has not been established, and the rejection of independent Claims 25, 39, 41 and 42 and claims dependent therefrom should be withdrawn.

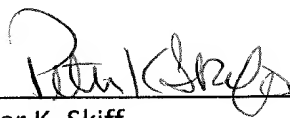
In view of the foregoing, the panel is requested to withdraw the rejections of record.

Respectfully submitted,

BUCHANAN INGERSOLL & ROONEY PC

Date: January 22, 2010

By: \_\_\_\_\_



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